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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WILLIAMS, LAWRENCE B	
ART UNIT	**PAPER NUMBER**
2634	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/471,857	GU, QIZHENG	
	Examiner	Art Unit	
	Lawrence B Williams	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 September 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-13,15,16 and 20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *20* is/are allowed.

6)☒ Claim(s) *1,5-7,11-13, 15-16* is/are rejected.

7)☒ Claim(s) *8-10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 1, 5-7, 11-16 is withdrawn in view of the newly discovered reference(s) to Kwon et al. (US Patent 6,151,328). Rejections based on the newly cited reference(s) follow.

Specification

2. The disclosure is objected to because of the following informalities: Examiner suggests applicant replace the phrase "the invention" with "the prior art" in line 15 of page 3 of the specification.

Appropriate correction is required.

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1, 7, 11, 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kwon et al. (US Patent 6, 151, 328).

(1) With regard to claim 1, Kwon et al. discloses in Fig(s). 2 and 5, a method for receiving a signal said method comprising the steps of: receiving an RF signal, said RF signal comprising a plurality of information channel signals (Fig. 2; 22-24) each comprising different code division multiple access data spread using a different spreading codes (Fig. 2; 25-27) wherein each of said plurality of information channel signals are transmitted in one of a plurality of transmission bands, and each of said plurality of information channel signals is carried on one of a plurality of carrier frequencies (Fig. 2, 40-42), down-converting said RF signal to form an intermediate signals wherein said intermediate signal comprises (col. 5, lines 35-42): down-converted versions of each of said plurality of information channel signals, and said down-converted versions of each of said plurality of information channel signals are within a common frequency spectrum; and decoding said intermediate signal to extract data from said down-converted versions of each of said plurality of information channel signals (col. 6, lines 35-30).

(2) With regard to claim 7, claim 7 inherits all limitations of claim 1 above. Furthermore Kwon et al. also discloses

(3) With regard to claim 11, Kwon et al. also discloses wherein the step of receiving an RF signal comprises receiving an RF signal from a cellular base station (claim 22).

(4) With regard to claim 13, Kwon et al. discloses in Fig(s). 4, 4, 5 a mobile radio telephone unit (101, 102) comprising: an antenna configured to receive an RF signal (Fig. 4; 101), said RF signal comprising a plurality of information channel signals (Fig. 2; 22-24) each

comprising different code division multiple access data spread using a different spreading codes (Fig. 2; 25-27) wherein each of said plurality of information channel signals are transmitted in one of a plurality of transmission bands, and each of said plurality of information channel signals is carried on one of a plurality of carrier frequencies (Fig. 2, 40-42), down-converter (Fig. 4, 101) as a) operatively coupled to the antenna and configured to down-convert said RF signal to form an intermediate signals wherein said intermediate signal comprises (col. 5, lines 35-42): down-converted versions of each of said plurality of information channel signals, and said down-converted versions of each of said plurality of information channel signals are within a common frequency spectrum; and a decoder (127) operatively coupled to the down-converter and configured to decode said intermediate signal to extract data from said down-converted versions of each of said plurality of information channel signals (col. 6, lines 35-30).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 5, 6, 15, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al. (US Patent 6,151,328 B1 as applied to claims 1 and 13 above in view of Suominen (US Patent 6,247,068 B1).

(1) With regard to claim 5, as noted above, Kwon et al. discloses all limitations of claims

1 above. He does not however disclose wherein said step of down-converting comprises down-converting each of said plurality of carrier frequencies by a plurality of oscillator frequencies.

However, Suominen teaches a method of tuning a desired signal (down-converting) wherein the method comprises setting a local oscillator signal to a frequency selected from a given plurality of local oscillator frequencies (claim 10).

It would have been obvious to one skilled in the art at the time of invention to incorporate the teaching of Suominen as a method of translating each of the carrier frequencies to a specific pass band dependent upon the oscillator frequency.

(2) With regard to claim 6, Suominen also teaches wherein the frequency spacing between each adjacent pair of said plurality of carrier frequencies and between each adjacent pair of said oscillator frequencies is substantially the same (Claim 10).

(3) With regard to claim 15, claim 15 inherits all limitations of claim 5 and 13 above.

(4) With regard to claim 16, claim 16inherits all limitations of claims 5, 6 and 13 above.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwon et al. (US Patent 6,151,328 B1 as applied to claim 1 above in view of Oberhammer et al. (US Patent 66,114,363).

With regard to claim 12, Kwon et al. discloses all limitations of claim 1 above. He does not however disclose the step of filtering said intermediate signal to attenuate at least one signal outside the frequency spectrum before performing said step of down-converting.

However, Oberhammer et al. teaches in Fig. 3b, the step of filtering said intermediate signal to attenuate at least one signal outside the frequency spectrum before performing said step of down-converting (col. 6, lines 39-60).

It would have been obvious for one skilled in the art at the time of invention to incorporate the teaching of Oberhammer et al. as a method of simultaneous reception with reduced interference (col. 2, lines 8-21).

Allowable Subject Matter

9. Claim 20 is allowed.

10. Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses signal reception method and apparatus for implementation in a multi-mode MC-CDMA/CDMA receiver. A search of prior records of art failed to disclose a method and apparatus "wherein the step of forming said base band signal further comprises down-converting the intermediate signal using a first oscillator signal to form a first base band component signal and a second oscillator signal to form a second base band component signal, the first and second oscillator signals each at a first frequency and a different phase" as disclosed in claim 8. Nor does the prior art teach a CDMA receiver for operating in at last a first and a

second mode, said CDMA receiver comprising; " an oscillator, said oscillator for generating a plurality of oscillator signals, each at a different frequency, when the receiver operates in the first mode and generating a single oscillatory signal when the receiver operates in the second mode; a down-converter coupled to said initial RF stage and said oscillator, said down-converter for receiving said received RF signal and multiplying said RF signal by said plurality of oscillator signals when the receiver operates in the first mode, and multiplying said RF signal by said single oscillator signal when the receiver operates in the second mode" along with the remaining limitations of claim 20.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.) Jung et al. discloses in US Patent 6,307,851 B1 System For Transmission of Digital Signals Between a Plurality of Subscribers Stations And Base Station.

b.) Suk et al. discloses in US Patent 6,441,155 B1 Device and Method for Controlling Transmission Power of a Mobile Station in a Multi-Carrier CDMA Mobile Communication System.

c.) Zhou et al. discloses in US Patent 5,465,418 Self-Oscillating Mixer Circuits and Method Thereof.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw
January 9, 2005

AMANDA T. LE
PRIMARY EXAMINER